

IN THE CLAIMS:

1. (Currently Amended) A reception apparatus which receives scrambled content, and reproduces the scrambled content in a normal reproduction mode and in a particular reproduction mode, comprising:

reception means for receiving the scrambled content and storage information,

5 wherein (a) the scrambled content is a content which has been scrambled so ~~that a predetermined unit of scrambled content, which is a portion of the scrambled content, is descrambled using a descrambling key corresponding to the predetermined unit of scrambled content, and at least one piece of storage information in which a list of descrambling keys including all descrambling keys to be used for descrambling the scrambled content and descrambling key identifiers that identify~~
10 ~~the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode that includes a play mode, and a particular reproduction mode that includes a fast-forward mode is embedded, in~~
units of frames so that the frames can be descrambled using descrambling keys that respectively correspond to each of the frames, and (b) the storage information includes a list of the
15 descrambling keys which includes all of the descrambling keys;

~~from the list of descrambling keys, a first group of descrambling keys being extracted in the normal reproduction mode, and a second group of descrambling keys being extracted in the particular reproduction mode;~~

storage means for storing the received scrambled content and the storage
20 information;

list extraction means for extracting the list of descrambling keys from the stored storage information;

descramble processing means for descrambling the scrambled content; and ~~(a) extracting the predetermined unit of scrambled content from the stored scrambled content sequentially if in the normal reproduction mode to obtain a first group of scrambled content made of a plurality of portions of the scrambled content, or to obtain a second group of scramble content made of a plurality of portions of the scrambled content in an order different from the normal reproduction mode if in the particular reproduction mode (b) i) in the normal reproduction mode, specifying and extracting, using the descrambling key identifiers, the first~~
25 ~~group of descrambling keys and descrambling each portion of the scrambled content in the first group of scrambled content with use of a corresponding one of the first group of descrambling keys thereby obtaining a first group of content made of a plurality of portions of content, and ii) in the particular reproduction mode, specifying and extracting, using the descrambling key identifiers, the second group of descrambling keys and descrambling each portion of the~~
30 ~~scramble content in the second group of scrambled content with use of a corresponding one of the second group of descrambling keys thereby obtaining a second group of content made of a plurality of portions of content; and~~

reproduction means for reproducing the descrambled content, wherein first group
of content in the normal reproduction mode and reproducing the second group of content in the
40 particular reproduction mode

the normal reproduction mode is a mode which includes a play mode and in which all of the frames are descrambled and reproduced sequentially.

the particular reproduction mode is a mode which includes a fast-play mode and in which only predetermined frames selectively extracted from less than all of the frames are

45 descrambled and reproduced, and

(a) in the normal reproduction mode,

said list extraction means extracts all descrambling keys from the list of descrambling keys,

said descramble processing means descrambles each frame of all of the frames using each of the extracted descrambling keys, and

said reproduction means reproduces all of the frames descrambled by said descrambling means, and

(b) in the particular reproduction mode,

said list extraction means selectively extracts descrambling keys corresponding to the predetermined frames from the list of descrambling keys,

said descramble processing means descrambles each of the predetermined frames using the extracted descrambling keys, and

said reproduction means reproduces only the predetermined frames descrambled by said descrambling means so that the content is reproduced in a different speed than a speed of reproduction of the normal reproduction mode.

2. (Previously Presented) The reception apparatus of Claim 1, wherein

the reception means receives one piece of storage information in which the list of descrambling keys is embedded,

the storage means stores the received scrambled content and the one piece of
5 storage information, and

the list extraction means extracts the list of descrambling keys from the stored one
piece of storage information.

3. (Previously Presented) The reception apparatus of Claim 1, wherein

the reception means receives a plurality of pieces of storage information in each
piece of which a divided portion of the list of descrambling keys is embedded,

the storage means stores the received scrambled content and the plurality of
5 pieces of storage information, and

the list extraction means extracts the list of descrambling keys from the stored
plurality of pieces of storage information.

4. (Previously Presented) The reception apparatus of Claim 1, wherein

the reception means sequentially receives a transport stream (TS) packet including
the predetermined unit of scrambled content,

the storage means sequentially stores the received TS packet, wherein
5 the descramble processing means includes:

scrambled content extraction means for extracting the predetermined unit of
scrambled content from one of the TS packets stored in the storage means, and counting the
ordinal position of the TS packet from the leading TS packet;

descrambling key extraction means for extracting a descrambling key from the list
10 of descrambling keys, based on the counted ordinal position; and

descrambling means for descrambling the extracted predetermined unit of scrambled content using the extracted descrambling key.

5. (Previously Presented) The reception apparatus of Claim 1, wherein
the reception means receives at least one storage Entitlement Control Message (ECM) as the at least one piece of storage information, the list of descrambling keys being embedded in a portion to be encoded in the main body of the ECM,
5 the storage means stores the received storage ECMs, and
the list extraction means interprets the stored storage ECMs to extract the list of descrambling keys.

6. (Original) The reception apparatus of Claim 5, wherein
the reception means receives the storage ECMs including identifying information for distinguishing the storage ECMs from another type of ECM.

7. (Original) The reception apparatus of Claim 5, wherein
the reception means receives the storage ECMs at a time.

8. (Previously Presented) The reception apparatus of Claim 1, wherein
the reception means sequentially receives a TS packet including (a) the predetermined unit of scrambled content and (b) packet specifying information for specifying an unscrambled TS packet, and

5 the storage means sequentially stores the received TS packet, wherein
the descramble processing means includes:

scrambled content extraction means for extracting the predetermined unit of scrambled content and the packet specifying information from one of the TS packets stored in the storage means;

10 descrambling key extraction means for extracting a descrambling key from the list of descrambling keys, based on the extracted packet specifying information; and

 descrambling means for descrambling the extracted predetermined unit of scrambled content using the extracted descrambling key.

9. (Previously Presented) The reception apparatus of Claim 8, wherein

 the packet specifying information is one of Continuity Counter (CC), the number of TS packets, a cumulative amount of data, a relative reproduction time, and a scrambling key identifier,

5 the scrambled content extraction means extracts, as the packet specifying information, one of the Continuity Counter (CC), the number of TS packets, the cumulative amount of data, the relative reproduction time, and the scrambling key identifier, and

 the descrambling key extraction means performs a predetermined operation to the extracted information as the packet identifying information to generate a descrambling key
10 identifier, and extracts a descrambling key from the list of descrambling keys based on the descrambling key identifier.

10. (Previously Presented) The reception apparatus of Claim 1, wherein

 the reception means sequentially receives a TS packet including (a) the predetermined unit of scrambled content and (b) unscrambled I picture information, wherein the

I picture information indicates whether the TS packet corresponding to the information consists
5 of a portion of an I picture/an I picture or not, and

the storage means sequentially stores the received TS packet, wherein

the descramble processing means includes:

scrambled content extraction means for, when performing particular reproduction
processes, extracting the predetermined unit of scrambled content and I picture information from

10 one of the TS packets stored in the storage means;

I picture judgment means for judging whether the extracted predetermined unit of
scrambled content consists of a portion of an I picture/an I picture or not, based on the extracted I
picture information;

descrambling key extraction means for extracting a descrambling key from the list
15 of descrambling keys, only when the extracted predetermined unit of scrambled content consists
of a portion of an I picture/an I picture; and

descrambling means for descrambling the extracted predetermined unit of
scrambled content using the extracted descrambling key.

11. (Previously Presented) The reception apparatus of Claim 1 further managing
contract information and consisting of a security module whose portion does not effectively
function if a contract has not been made, and other modules, the reception apparatus further
comprising:

5 list holding means for holding the list of descrambling keys extracted by the list
extraction means,

wherein the list extraction means and the list holding means are provided within the security module.

12. (Currently Amended) A reception apparatus which receives and reproduces scrambled content in a normal reproduction mode and in a particular reproduction mode, comprising:

reception means for receiving the scrambled content, wherein the scrambled
5 content is ~~scrambled so that a predetermined unit of scrambled content, which is a portion of the scrambled content, is descrambled using a descrambling key corresponding to the predetermined unit of scrambled content, and a descrambling key is attached to each predetermined unit of a~~
content which has been scrambled in units of frames so that the frames can be descrambled using descrambling keys that respectively correspond to each of the frames, and the descrambling keys
10 are attached to the frames of scrambled content;

storage means for storing the received scrambled content;

list generation means for, when/after storing the received scrambled content by said storage means, generating a list of descrambling keys ~~including all descrambling keys to be used for descrambling the scrambled content and descrambling key identifiers that identify the~~
15 ~~descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode that includes a play mode, and a particular reproduction mode that includes a fast forward mode, based on the descrambling key attached to each predetermined unit of~~ which includes all of the descrambling keys attached to each frame of the scrambled content,

20 ~~from the list of descrambling keys, a first group of descrambling keys being
extracted in the normal reproduction mode, and a second group of descrambling keys being
extracted in the particular reproduction mode;~~

list extraction means for extracting the list of descrambling keys from the stored
storage information;

25 descramble processing means for descrambling the scrambled content; (a)
~~extracting the predetermined unit of scrambled content from the stored scrambled content
sequentially if in the normal reproduction mode to obtain a first group of scrambled content
made of a plurality of portions of the scrambled content, or to obtain a second group of scramble
content made of a plurality of portions of the scrambled content in an order different from the
30 normal reproduction mode if in the particular reproduction mode (b) i) in the normal
reproduction mode, specifying and extracting, using the descrambling key identifiers, the first
group of descrambling keys and descrambling each portion of the scrambled content in the first
group of scrambled content with use of a corresponding one of the first group of descrambling
keys thereby obtaining a first group of content made of a plurality of portions of content, and ii)
35 in the particular reproduction mode, specifying and extracting, using the descrambling key
identifiers, the second group of descrambling keys and descrambling each portion of the
scramble content in the second group of scrambled content with use of a corresponding one of
the second group of descrambling keys thereby obtaining a second group of content made of a
plurality of portions of content; and~~

40 reproduction means for reproducing the descrambled content, wherein first group
of content in the normal reproduction mode and reproducing the second group of content in the
particular reproduction.

the normal reproduction mode is a mode which includes a play mode and in which all of the frames are descrambled and reproduced sequentially,

45 the particular reproduction mode is a mode which includes a fast-play mode and in which only predetermined frames selectively extracted from less than all of the frames are descrambled and reproduced, and

(a) in the normal reproduction mode,

said list extraction means extracts all descrambling keys from the list of
50 descrambling keys,

said descramble processing means descrambles each frame of all of the frames using each of the extracted descrambling keys, and

said reproduction means reproduces all of the frames descrambled by said descrambling means, and

55 (b) in the particular reproduction mode,

said list extraction means selectively extracts descrambling keys corresponding to the predetermined frames from the list of descrambling keys,

said descramble processing means descrambles each of the predetermined frames using the extracted descrambling keys, and said reproduction means reproduces the

60 predetermined frames descrambled by said descrambling means.

13. (Previously Presented) The reception apparatus of Claim 12, wherein

 the reception means sequentially receives a TS packet including (a) the predetermined unit of scrambled content, and (b) auxiliary information including a descrambling key and information for associating the descrambling key with scrambled content,

5 the storage means sequentially stores the received TS packet, and
the list generation means generates the list of descrambling keys, based on the
auxiliary information.

14. (Previously Presented) The reception apparatus of Claim 13, wherein
the TS packet includes an ECM, the auxiliary information being embedded in a
portion to be encoded in a main body of the ECM, and
the list generation means extracts the auxiliary information embedded in the
5 ECM, and generates the list of descrambling keys based on the auxiliary information.

15. (Currently Amended) A broadcast apparatus which scrambles content and
broadcasts the scrambled content to a reception apparatus, the broadcast apparatus comprising:
acquisition means for acquiring content to be scrambled and a plurality of
descrambling keys;
5 scramble processing means ~~for scrambling a predetermined unit of content out of~~
~~the acquired content so that the predetermined unit of scrambled content is descrambled using a~~
~~descrambling key different for each predetermined unit or each set of a plurality of~~
~~predetermined units~~ that selects one of the descrambling keys for each frame of the content, and
scrambles the each frame so that the frame can be descrambled by using the descrambling key
10 selected for the frame;

attaching means for attaching auxiliary information, which is used to generate a
list of the descrambling keys, wherein the auxiliary information includes (a) information for
identifying each of the frames and (b) each of the descrambling keys selected for the frame; and
~~to the predetermined unit of scrambled content, the auxiliary information consisting of (a)~~

15 ~~information for identifying the scrambled content and (b) a descrambling key corresponding to~~
~~the content, and used for having the reception apparatus generate a list of descrambling keys~~
~~including the descrambling keys and descrambling key identifiers that identify the descrambling~~
~~keys respectively and are used to identify a descrambling key corresponding to the~~
~~predetermined unit of scrambled content in both a normal reproduction mode that includes a play~~
20 ~~mode, and a particular reproduction mode that includes a fast-forward mode; and~~

~~from the list of descrambling keys, a first group of descrambling keys being~~
~~extracted in the normal reproduction mode, and a second group of descrambling keys being~~
~~extracted in the particular reproduction mode~~

~~broadcast means for broadcasting the scrambled content including the plurality of~~
25 ~~scrambled frames to which the auxiliary information is added has been attached.~~

16. (Original) The broadcast apparatus of Claim 15, wherein
the attaching means embeds the auxiliary information in a portion to be encoded
in a main body of an ECM and attaches the ECM to the predetermined unit of scrambled content.

17. (Currently Amended) A broadcast apparatus which scrambles content and
broadcasts the scrambled content to a reception apparatus, the broadcast apparatus comprising:

acquisition means for acquiring content to be scrambled and a plurality of
descrambling keys;

5 scramble processing means that selects one of the descrambling keys for each
frame of the content, and scrambles the each frame so that the frame can be descrambled by
using the descrambling key selected for the frame;

list generation means for generating a list of descrambling keys which includes all
of the descrambling keys selected by the scramble processing means including the descrambling
10 ~~keys and descrambling key identifiers that identify the descrambling keys respectively and are~~
~~used to identify a descrambling key corresponding to the predetermined unit of scrambled~~
~~content in both a normal reproduction mode that includes a play mode, and a particular~~
~~reproduction mode that includes a fast forward mode;~~

~~from the list of descrambling keys, a first group of descrambling keys being~~
15 ~~extracted in the normal reproduction mode, and a second group of descrambling keys being~~
~~extracted in the particular reproduction mode;~~

embedding means for embedding the list of descrambling keys in at least one
piece of predetermined information to generate at least one piece of storage information; and

~~scramble processing means for scrambling a predetermined unit of content out of~~
20 ~~the acquired content so that the predetermined unit of scrambled content is descrambled using a~~
~~descrambling key different for each predetermined unit or each set of a plurality of~~
~~predetermined units; and~~

broadcast means for broadcasting the generated storage information and the
scrambled content.

18. (Previously Presented) The broadcast apparatus of Claim 17, wherein

the embedding means embeds the list of descrambling keys in one piece of
predetermined information to generate one piece of storage information, and

the broadcasting means broadcasts the generated one piece of information and the
5 scrambled content.

19. (Previously Presented) The broadcast apparatus of Claim 17, wherein
the embedding means embeds a divided portion of the list of descrambling keys in
each of a plurality of pieces of predetermined information to generate a plurality of pieces of
storage information, and

5 the broadcasting means broadcasts the generated plurality of pieces of storage
information and the scrambled content.

20. (Previously Presented) The broadcast apparatus of Claim 17, wherein
the embedding means embeds the list of descrambling keys in a portion to be
encoded in a main body of at least one ECM to generate at least one piece of storage
information.

21. (Original) The broadcast apparatus of Claim 17, wherein
the broadcast means broadcasts one set of the storage information while all the
scrambled content corresponding to the storage information are broadcast once.

22. (Currently Amended) A program used for a reception apparatus which receives
and reproduces scrambled content, the program causing the reception apparatus to perform:~~being~~
~~stored on a computer-readable medium and having the reception apparatus conduct the following~~
~~steps of~~

5 a reception step for receiving the scrambled content and storage information,
wherein (a) the scrambled content is ~~scrambled so that a predetermined unit of scrambled~~
~~content, which is a portion of the scrambled content, is descrambled using a descrambling key~~
~~corresponding to the predetermined unit of scrambled content, and at least one piece of storage~~

information in which a list of descrambling keys including all descrambling keys to be used for
10 descrambling the scrambled content and descrambling key identifiers that identify the
descrambling keys respectively and are used to identify a descrambling key corresponding to the
predetermined unit of scrambled content in both a normal reproduction mode that includes a play
mode, and a particular reproduction mode that includes a fast forward mode is embedded, a
content which has been scrambled in units of frames so that the frames can be descrambled using
15 descrambling keys that respectively correspond to each of the frames, and (b) the storage
information includes a list of the descrambling keys which includes all of the descrambling keys;

~~from the list of descrambling keys, a first group of descrambling keys being
extracted in the normal reproduction mode, and a second group of descrambling keys being
extracted in the particular reproduction mode;~~

20 a storage step for storing the received scrambled content and the storage
information;

a list extraction step for extracting the list of descrambling keys from the stored
storage information;

a descramble processing step for descrambling the scrambled content; and (a)
25 ~~extracting the predetermined unit of scrambled content from the stored scrambled content
sequentially if in the normal reproduction mode to obtain a first group of scrambled content
made of a plurality of portions of the scrambled content, or to obtain a second group of scramble
content made of a plurality of portions of the scrambled content in an order different from the
normal reproduction mode if in the particular reproduction mode (b) i) in the normal
30 reproduction mode, specifying and extracting, using the descrambling key identifiers, the first
group of descrambling keys and descrambling each portion of the scrambled content in the first~~

~~group of scrambled content with use of a corresponding one of the first group of descrambling keys thereby obtaining a first group of content made of a plurality of portions of content, and ii) in the particular reproduction mode, specifying and extracting, using the descrambling key~~
35 ~~identifiers, the second group of descrambling keys and descrambling each portion of the scramble content in the second group of scrambled content with use of a corresponding one of the second group of descrambling keys thereby obtaining a second group of content made of a plurality of portions of content; and~~

a reproduction step for reproducing the descrambled content, wherein first group
40 ~~of content in the normal reproduction mode and reproducing the second group of content in the particular reproduction mode~~

the normal reproduction mode is a mode which includes play mode and in which all of the frames are descrambled and reproduced sequentially,

the particular reproduction mode is a mode which includes a fast-play mode and
45 in which only predetermined frames selectively extracted from less than all of the frames are descrambled and reproduced, and

(a) in the normal reproduction mode,

said list extraction step extracts all descrambling keys from the list of descrambling keys,

50 said descramble processing step descrambles each frame of all of the frames using each of the extracted descrambling keys, and

said reproduction step reproduces the all of the frames descrambled by said descrambling means, and

(b) in the particular reproduction mode,

55 said list extraction step selectively extracts descrambling keys corresponding to the predetermined frames from the list of descrambling keys,

said descramble processing step descrambles each of the predetermined frames using the extracted descrambling keys, and

said reproduction means reproduces only the predetermined frames descrambled
60 by said descrambling means so that the content is reproduced in a different speed than a speed of reproduction of the normal reproduction mode.

23. (Currently Amended) A program used for a reception apparatus which receives and reproduces scrambled content, the program causing the reception apparatus to perform:~~being stored on a computer-readable medium and having the reception apparatus conduct the following steps of~~

5 a reception step for receiving the scrambled content, wherein the scrambled content is ~~scrambled so that a predetermined unit of scrambled content, which is a portion of the scrambled content, is descrambled using a descrambling key corresponding to the predetermined unit of scrambled content, and a descrambling key is attached to each predetermined unit a~~
 content which has been scrambled in units of frames so that the frames can be descrambled using
10 descrambling keys that respectively correspond to each of the frames, and the descrambling keys are attached to the frames of scrambled content;

 a storage step for storing the received scrambled content;

 a list generation step for, when/after storing the received scrambled content by said storage step, generating a list of descrambling keys ~~including all descrambling keys to be~~
15 ~~used for descrambling the scrambled content and descrambling key identifiers that identify the~~

~~desrambling keys respectively and are used to identify a desrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode that includes a play mode, and a particular reproduction mode that includes a fast forward mode, based on the desrambling key attached to each predetermined unit which includes all of the desrambling~~

20 ~~keys attached to each frame of the scrambled content,~~

~~from the list of desrambling keys, a first group of desrambling keys being extracted in the normal reproduction mode, and a second group of desrambling keys being extracted in the particular reproduction mode;~~

~~a list extraction step for extracting the list of desrambling keys from the stored~~
25 ~~storage information;~~

~~a desramble processing step for desrambling the scrambled content; (a) extracting the predetermined unit of scrambled content from the stored scrambled content sequentially if in a normal reproduction mode to obtain a first group of scrambled content made of a plurality of portions of the scrambled content, or to obtain a second group of scramble~~
30 ~~content made of a plurality of portions of the scrambled content in an order different from the normal reproduction mode if in a particular reproduction mode (b) i) in the normal reproduction mode, specifying and extracting, using the desrambling key identifiers, the first group of desrambling keys and desrambling each portion of the scrambled content in the first group of scrambled content with use of a corresponding one of the first group of desrambling keys~~
35 ~~thereby obtaining a first group of content made of a plurality of portions of content, and ii) in the particular reproduction mode, specifying and extracting, using the desrambling key identifiers, the second group of desrambling keys and desrambling each portion of the scramble content in the second group of the scrambled content with use of a corresponding one of the second group~~

of descrambling keys thereby obtaining a second group of content made of a plurality of portions
40 of content; and

a reproduction step for reproducing the descrambled content, wherein first group
of content in the normal reproduction mode and reproducing the second group of content in the
particular reproduction mode.

the normal reproduction mode is a mode which includes a play mode and in
45 which all of the frames are descrambled and reproduced sequentially,

the particular reproduction mode is a mode which includes a fast-play mode and
in which only predetermined frames selectively extracted from less than all of the frames are
descrambled and reproduced, and

(a) in the normal reproduction mode,
50 said list extraction step extracts all descrambling keys from the list of
descrambling keys,

said descramble processing step descrambles each frame of all of the frames using
each of the extracted descrambling keys, and

said reproduction step reproduces all of the frames descrambled by said
55 descrambling step, and

(b) in the particular reproduction mode,
said list extraction step selectively extracts descrambling keys corresponding to
the predetermined frames from the list of descrambling keys,

said descramble processing step descrambles each of the predetermined frames
60 using the extracted descrambling keys, and

said reproduction step reproduces the predetermined frames descrambled by said descrambling step at a speed of reproduction that is different than a speed of reproduction of the normal reproduction mode.

24. (Currently Amended) A program used for a broadcast apparatus which scrambles content and broadcasts the scrambled content to a reception apparatus, the program causing the broadcast apparatus to perform: being stored on a computer readable medium and having the broadcast apparatus conduct the following steps of

5 an acquisition step for acquiring content to be scrambled and a plurality of descrambling keys;

 a scramble processing step for ~~serambling a predetermined unit of content out of the acquired content so that the predetermined unit of scrambled content is descrambled using a descrambling key different for each predetermined unit or each set of a plurality of~~
10 ~~predetermined units~~ selecting one of the descrambling keys for each frame of the content, and scrambling the each frame so that the frame can be descrambled by using the descrambling key selected for the frame;

 an attaching step for attaching auxiliary information, ~~to the predetermined unit of scrambled content, the auxiliary information consisting of (a) information for identifying the~~
15 ~~scrambled content and (b) a descrambling key corresponding to the content, and used for having the reception apparatus generate a list of descrambling keys including the descrambling keys and descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode that includes a play mode, and a particular reproduction mode;~~

20 ~~and that includes a fast forward mode, which is used to generate a list of the descrambling keys,~~
~~wherein the auxiliary information includes (a) information for identifying each of the frames and~~
~~(b) each of the descrambling keys selected for the frame; and~~

~~from the list of descrambling keys, a first group of descrambling keys being~~
~~extracted in the normal reproduction mode, and a second group of descrambling keys being~~
25 ~~extracted in the particular reproduction mode; and~~

~~a broadcast step for broadcasting the scrambled content to which the auxiliary~~
~~information is added including the plurality of scrambled frames to which the auxiliary~~
~~information has been attached.~~

25. (Currently Amended) A program used for a broadcast apparatus which scrambles
content and broadcasts the scrambled content to a reception apparatus, the program ~~being stored~~
~~on a computer readable medium having the broadcast apparatus conduct the following steps of~~
~~causing the broadcast apparatus to perform:~~

5 an acquisition step for acquiring content to be scrambled and a plurality of
descrambling keys;

a scramble processing step for selecting one of the descrambling keys for each
frame of the content, and scrambling the each frame so that the frame can be descrambled by
using the descrambling key selected for the frame;

10 a list generation step for generating a list of descrambling keys ~~including the~~
~~descrambling keys and descrambling key identifiers that identify the descrambling keys~~
~~respectively and are used to identify a descrambling key corresponding to the predetermined unit~~
~~of scrambled content in both a normal reproduction mode that includes a play mode, and a~~

~~particular reproduction mode that includes a fast forward mode, which includes all of the~~

15 ~~descrambling keys selected by the scramble processing step;~~

~~from the list of descrambling keys, a first group of descrambling keys being
extracted in the normal reproduction mode, and a second group of descrambling keys being
extracted in the particular reproduction mode;~~

20 ~~an embedding step for embedding the list of descrambling keys in at least one
piece of predetermined information to generate at least one piece of storage information; and~~

~~a scramble processing step for scrambling a predetermined unit of content out of
the acquired content so that the predetermined unit of scrambled content is descrambled using a
descrambling key different for each predetermined unit or each set of a plurality of
predetermined units; and~~

25 ~~a broadcast step for broadcasting the generated storage information and the
scrambled content.~~

26. (Currently Amended) A ~~computer-readable~~ recording medium on which a
program used for a reception apparatus which receives and reproduces scrambled content is
recorded, the program ~~has the reception apparatus conduct the following steps of~~ causing the
reception apparatus to perform:

5 ~~a reception step for receiving the scrambled content, wherein the scrambled
content is scrambled so that a predetermined unit of scrambled content, which is a portion of the
scrambled content, is descrambled using a descrambling key corresponding to the predetermined
unit of scrambled content, and at least one piece of storage information in which a list of
descrambling keys including all descrambling keys to be used for descrambling the scrambled~~

10 ~~content and descrambling key identifiers that identify the descrambling keys respectively and are~~
~~used to identify a descrambling key corresponding to the predetermined unit of scrambled~~
~~content in both a normal reproduction mode that includes a fast forward mode, and a particular~~
~~reproduction mode that includes a fast forward mode is embedded; and storage information,~~
wherein (a) the scrambled content is a content which has been scrambled in units of frames so
15 that the frames can be descrambled using descrambling keys that respectively correspond to each
of the frames, and (b) the storage information includes a list of the descrambling keys which
includes all of the descrambling keys;

~~from the list of descrambling keys, a first group of descrambling keys being~~
~~extracted in the normal reproduction mode, and a second group of descrambling keys being~~
20 ~~extracted in the particular reproduction mode;~~

a storage step for storing the received scrambled content and the storage
information;

a list extraction step for extracting the list of descrambling keys from the stored
storage information;

25 a descramble processing step for descrambling the scrambled content; and (a)
~~extracting the predetermined unit of scrambled content from the stored scrambled content~~
~~sequentially if in the normal reproduction mode to obtain a first group of scrambled content~~
~~made of a plurality of portions of the scrambled content, or to obtain a second group of scramble~~
~~content made of a plurality of portions of the scrambled content in an order different from the~~
30 ~~normal reproduction mode if in the particular reproduction mode (b) i) in the normal~~
~~reproduction mode, specifying and extracting, using the descrambling key identifiers, the first~~
~~group of descrambling keys and descrambling each portion of the scrambled content in the first~~

~~group of scrambled content with use of a corresponding one of the first group of descrambling keys thereby obtaining a first group of content made of a plurality of portions of content, and ii) in the particular reproduction mode, specifying and extracting, using the descrambling key identifiers, the second group of descrambling keys and descrambling each portion of the scramble content in the second group of scrambled content with use of a corresponding one of the second group of descrambling keys thereby obtaining a second group of content made of a plurality of portions of content; and~~

a reproduction step for reproducing the descrambled content, wherein first group of content in the normal reproduction mode and reproducing the second group of content in the particular reproduction mode

the normal reproduction mode is a mode which includes a play mode and in which all of the frames are descrambled and reproduced sequentially,

the particular reproduction mode is a mode which includes a fast-play mode and in which only predetermined frames selectively extracted from less than all of the frames are descrambled and reproduced, and

(a) in the normal reproduction mode,

said list extraction step extracts all descrambling keys from the list of descrambling keys,

said descramble processing step descrambles each frame of all of the frames using each of the extracted descrambling keys, and

said reproduction step reproduces all of the frames descrambled by said descrambling means, and

(b) in the particular reproduction mode,

said list extraction step selectively extracts descrambling keys corresponding to the predetermined frames from the list of descrambling keys,

said descramble processing step descrambles each of the predetermined frames using the extracted descrambling keys, and

60 said reproduction means reproduces only the predetermined frames descrambled by said descrambling means so that the content is reproduced in a different speed than a speed of reproduction of the normal reproduction mode.

27. (Currently Amended) A ~~computer-readable~~ recording medium on which a program used for a reception apparatus which receives and reproduces scrambled content is recorded, the program ~~has the reception apparatus conduct the following steps of~~ causing the reception apparatus to perform:

5 a reception step for receiving the scrambled content, wherein the scrambled content is ~~scrambled so that a predetermined unit of scrambled content, which is a portion of the scrambled content, is descrambled using a descrambling key corresponding to the predetermined unit of scrambled content, and a descrambling key is attached to each predetermined unit a~~ content which has been scrambled in units of frames so that the frames can be descrambled using
10 descrambling keys that respectively correspond to each of the frames, and the descrambling keys are attached to the frames of scrambled content;

 a storage step for storing the received scrambled content;

 a list generation step for, when/after storing the received scrambled content in the storage step, generating a list ~~including all descrambling keys to be used for descrambling the~~
15 ~~scrambled content and descrambling key identifiers that identify the descrambling keys~~

respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode that includes a play mode, and a particular reproduction mode that includes a fast forward mode, based on the descrambling key attached to each predetermined unit of descrambling keys which includes all of the descrambling

20 keys attached to each frame of the scrambled content,

from the list of descrambling keys, a first group of descrambling keys being extracted in the normal reproduction mode, and a second group of descrambling keys being extracted in the particular reproduction mode;

25 a list extraction step for extracting the list of descrambling keys from the stored storage information;

a descramble processing step for descrambling the scrambled content; (a) extracting the predetermined unit of scrambled content from the stored scrambled content sequentially if in the normal reproduction mode to obtain a first group of scrambled content made of a plurality of portions of the scrambled content or to obtain a second group of scramble content made of a plurality of portions of the scrambled content, or in an order different from the normal reproduction mode if in the particular reproduction mode (b) i) in the normal reproduction mode, specifying and extracting, using the descrambling key identifiers, the first group of descrambling keys and descrambling each portion of the scrambled content in the first group of scrambled content with use of a corresponding one of the first group of descrambling
30 keys thereby obtaining a first group of content made of a plurality of portions of content, and ii) in the particular reproduction mode, specifying and extracting, using the descrambling key identifiers, the second group of descrambling keys and descrambling each portion of the scramble content in the second group of scrambled content with use of a corresponding one of
35

~~the second group of descrambling keys thereby obtaining a second group of content made of a~~
40 ~~plurality of portions of content; and~~

a reproduction step for reproducing the descrambled content, wherein ~~first group~~
~~of content in the normal reproduction mode and reproducing the second group of content in the~~
~~particular reproduction mode.~~

the normal reproduction mode is a mode which includes a play mode and in
45 which all of the frames are descrambled and reproduced sequentially,

the particular reproduction mode is a mode which includes a fast-play mode and
in which only predetermined frames selectively extracted from less than all of the frames are
descrambled and reproduced, and

(a) in the normal reproduction mode,
50 said list extraction step extracts all descrambling keys from the list of
descrambling keys,

said descramble processing step descrambles each frame of all of the frames using
each of the extracted descrambling keys, and

said reproduction step reproduces the all frames descrambled by said
55 descrambling step, and

(b) in the particular reproduction mode,
said list extraction step selectively extracts descrambling keys corresponding to
the predetermined frames from the list of descrambling keys,

said descramble processing step descrambles each of the predetermined frames
60 using the extracted descrambling keys, and

said reproduction step reproduces the predetermined frames descrambled by said descrambling step at a speed of reproduction that is different than a speed of reproduction of the normal reproduction mode.

28. (Currently Amended) A ~~computer-readable~~ recording medium on which a program used for a broadcast apparatus which scrambles content and broadcasts the content to a reception apparatus is recorded, the program has ~~the broadcast apparatus conduct the following steps of~~ causing the broadcast apparatus to perform:

5 an acquisition step for acquiring content to be scrambled and a plurality of descrambling keys;

 a scramble processing step for ~~scrambling a predetermined unit of content out of the acquired content so that the predetermined unit of scrambled content is descrambled using a descrambling key different for each predetermined unit or each set of a plurality of~~
10 ~~predetermined units~~ selecting one of the descrambling keys for each frame of the content, and scrambling the each frame so that the frame can be descrambled by using the descrambling key selected for the frame;

 an attaching step for attaching auxiliary information, ~~to the predetermined unit of scrambled content, the auxiliary information consisting of~~ which is used to generate a list of the
15 descrambling keys, wherein the auxiliary information includes (a) information for identifying the scrambled content each of the frames and (b) ~~[[a]]~~ each of the descrambling key corresponding to the content, and used for having the reception apparatus generate a list of descrambling keys including the descrambling keys and descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the

20 ~~predetermined unit of scrambled content in both a normal reproduction mode that includes a play mode, and a particular reproduction mode that includes a fast-forward mode; keys selected for the frame; and~~

~~from the list of descrambling keys, a first group of descrambling keys being extracted in the normal reproduction mode, and a second group of descrambling keys being~~
25 ~~extracted in the particular reproduction mode; and~~

a broadcast step for broadcasting the scrambled content including the plurality of scrambled frames to which the auxiliary information ~~is added~~ has been attached.

29. (Currently Amended) A ~~computer-readable~~ recording medium on which a program used for a broadcast apparatus which scrambles content and broadcasts the content to a reception apparatus is recorded, the program ~~has the broadcast apparatus conduct the following steps of~~ causing the broadcast apparatus to perform:

5 an acquisition step for acquiring content to be scrambled and a plurality of descrambling keys;

a scramble processing step for selecting one of the descrambling keys for each frame of the content, and scrambling the each frame so that the frame can be descrambled by using the descrambling key selected for the frame;

10 a list generation step for generating a list of descrambling keys ~~including the descrambling keys and descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode that includes a play mode, and a~~

~~particular reproduction mode that includes a fast forward mode, which includes all of the~~

15 descrambling keys selected by the scramble processing means;

~~from the list of descrambling keys, a first group of descrambling keys being
extracted in the normal reproduction mode, and a second group of descrambling keys being
extracted in the particular reproduction mode;~~

20 an embedding step for embedding the list of descrambling keys in at least one
piece of predetermined information to generate at least one piece of storage information; and

~~a scramble processing step for scrambling a predetermined unit of content out of
the acquired content so that the predetermined unit of scrambled content is descrambled using a
descrambling key different for each predetermined unit or each set of a plurality of
predetermined units; and~~

25 a broadcast step for broadcasting the generated storage information and the
scrambled content.

30. (Currently Amended) A computer-readable recording medium on which content
to be broadcast to a reception apparatus is recorded, wherein the reception apparatus receives and
stores scrambled content, and descrambles and reproduces the stored scrambled content, the
content comprising:

5 scrambled content which is scrambled so that a predetermined unit of scrambled
content, which is a portion of the scrambled content, is descrambled using a descrambling key
corresponding to the predetermined unit of content, and

a storage ECM, wherein ~~a list of descrambling keys including all descrambling
keys used for descrambling the scrambled content and descrambling key identifiers that identify~~

10 ~~the descrambling keys respectively and are used to identify a descrambling key corresponding to~~
~~the predetermined unit of scrambled content in both a normal reproduction mode that includes a~~
~~play mode, and a particular reproduction mode that includes a fast forward mode, descrambling~~
~~key list is embedded in a portion to be encoded in a main body of at least one ECM,~~

~~from the list of descrambling keys, a first group of descrambling keys being~~
15 ~~extracted in the normal reproduction mode, and a second group of descrambling keys being~~
~~extracted in the particular reproduction mode.~~

wherein (i) in a normal reproduction mode which includes a play mode and in
which a reproduction is performed by decrypting all the frames, the descrambling key list is used
to identify all the descrambling keys that are respectively used to descramble all the frames, and
20 (ii) in a particular reproduction mode which includes a fast-play mode and in which a
reproduction is performed by decrypting part of the frames, the descrambling key list is used to
identify descrambling keys that are used to descramble given frames,

wherein all the descrambling keys are extracted in sequence in the normal
reproduction mode, and the descrambling keys corresponding to the given frames to be
25 reproduced are selectively extracted in the particular reproduction mode.

31. (Currently Amended) A method for receiving and reproducing scrambled content, the method comprising the steps of:

a reception step for receiving the scrambled content, ~~wherein the scrambled~~
~~content is scrambled so that a predetermined unit of scrambled content, which is a portion of the~~
5 ~~scrambled content, is descrambled using a descrambling key corresponding to the predetermined~~
~~unit of scrambled content, and at least one piece of storage information in which a list of~~

~~descrambling keys including all descrambling keys to be used for descrambling the scrambled content and descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode that includes a play mode, and a particular reproduction mode is embedded that includes a fast-forward mode, and storage information, wherein (a) the scrambled content is a content which has been scrambled in units of frames so that the frames can be descrambled using descrambling keys that respectively correspond to each of the frames, and (b) the storage information includes a list of the descrambling keys which~~

10 ~~includes all of the descrambling keys;~~

15 ~~from the list of descrambling keys, a first group of descrambling keys being extracted in the normal reproduction mode, and a second group of descrambling keys being extracted in the particular reproduction mode;~~

~~a storage step for storing the received scrambled content and the storage~~

20 ~~information;~~

~~a list extraction step for extracting the list of descrambling keys from the stored storage information;~~

~~a descramble processing step for descrambling the scrambled content; and (a) extracting the predetermined unit of scrambled content from the stored scrambled content sequentially if in the normal reproduction mode to obtain a first group of scrambled content made of a plurality of portions of the scrambled content, or to obtain a second group of scramble content made of a particularity of portions of the scrambled content in an order different from the normal reproduction mode if in the particular reproduction mode (b) i) in the normal reproduction mode, specifying and extracting, using the descrambling key identifiers, the first~~

25

30 ~~group of descrambling keys and descrambling each portion of the scrambled content in the first~~
~~group of scrambled content with use of a corresponding one of the first group of descrambling~~
~~keys thereby obtaining a first group of content made of a plurality of portions of content, and ii)~~
~~in the particular reproduction mode, specifying and extracting, using the descrambling key~~
~~identifiers, the second group of descrambling keys and descrambling each portion of the~~
35 ~~scramble content in the second group of scrambled content with use of a corresponding one of~~
~~the second group of descrambling keys thereby obtaining a second group of content made of a~~
~~plurality of portion of content~~

a reproduction step for reproducing the ~~first group of content in the normal~~
~~reproduction mode and reproducing the second group of content in the particular reproduction~~
40 ~~mode.~~ descrambled content, wherein

the normal reproduction mode is a mode which includes a play mode and in
which all of the frames are descrambled and reproduced sequentially,

the particular reproduction mode is a mode which includes a fast-play mode and
in which only predetermined frames selectively extracted from less than all of the frames are
45 descrambled and reproduced, and

(a) in the normal reproduction mode,

said list extraction step extracts all descrambling keys from the list of
descrambling keys,

said descramble processing step descrambles each frame of all of the frames using
50 each of the extracted descrambling keys, and

said reproduction step reproduces the all frames descrambled by said
descrambling means, and

(b) in the particular reproduction mode,

said list extraction step selectively extracts descrambling keys corresponding to
55 the predetermined frames from the list of descrambling keys,

said descramble processing step descrambles each of the predetermined frames
using the extracted descrambling keys, and

said reproduction means reproduces only the predetermined frames descrambled
by said descrambling means so that the content is reproduced in a different speed than a speed of
60 reproduction of the normal reproduction mode.

32. (Currently Amended) A method for receiving and reproducing scrambled content, the method comprising ~~the steps of:~~

a reception step for receiving the scrambled content, wherein the scrambled content is ~~scrambled so that a predetermined unit of scrambled content, which is a portion of the~~
5 ~~scrambled content, is descrambled using a descrambling key corresponding to the predetermined unit of scrambled content, and a descrambling key is attached to each predetermined unit a~~
content which has been scrambled in units of frames so that the frames can be descrambled using
descrambling keys that respectively correspond to each of the frames, and the descrambling keys
are attached to the frames of scrambled content;

10 a storage step for storing the received scrambled content;

a list generation step for, when/after storing the received scrambled content in the storage step, generating a list of descrambling keys ~~including all descrambling keys to be used~~
~~for descrambling the scrambled content and descrambling key identifiers that identify the~~
~~descrambling keys respectively and are used to identify a descrambling key corresponding to the~~

15 ~~predetermined unit of scrambled content in both a normal reproduction mode that includes a play mode, and a particular reproduction mode that includes a fast forward mode, based on the~~
~~deserambing key attached to each predetermined unit~~ which includes all of the descrambling
keys attached to each frame of the scrambled content;

~~from the list of descrambling keys, a first group of descrambling keys being~~
20 ~~extracted in the normal reproduction mode, and a second group of descrambling keys being~~
~~extracted in the particular reproduction mode;~~

a list extraction step for extracting the list of descrambling keys from the stored
storage information;

a descramble processing step for descrambling the scrambled content; (a)
25 ~~extracting the predetermined unit of scrambled content from the stored scrambled content~~
~~sequentially if in the normal reproduction mode to obtain a first group of scrambled content~~
~~made of a plurality of portions of the scrambled content, or to obtain a second group of scramble~~
~~content made of a plurality of portions of he scrambled content in an order different from the~~
~~normal reproduction mode if in the particular reproduction mode (b) i) in the normal~~
30 ~~reproduction mode, specifying and extracting, using the descrambling key identifiers, the first~~
~~group of descrambling keys and descrambling each portion of the scrambled content in the first~~
~~group of scrambled content with use of a corresponding one of the first group of descrambling~~
~~keys thereby obtaining a first group of content made of a plurality of portions of content, and ii)~~
~~in the particular reproduction mode, specifying and extracting, using the descrambling key~~
35 ~~identifiers, the second group of descrambling keys and descrambling each portion of the~~
~~scramble content in the second group of scrambled content with use of a corresponding one of~~

~~the second group of descrambling keys thereby obtaining a second group of content made of a plurality of portions of content; and~~

40 a reproduction step for reproducing the descrambled content, wherein first group
~~of content in the normal reproduction mode and reproducing the second group of content in the particular reproduction mode.~~

the normal reproduction mode is a mode which includes a play mode and in which all of the frames are descrambled and reproduced sequentially.

45 the particular reproduction mode is a mode which includes a fast-play mode and
in which only predetermined frames selectively extracted from less than all of the frames are
descrambled and reproduced, and

(a) in the normal reproduction mode,

said list extraction step extracts all descrambling keys from the list of descrambling keys,

50 said descramble processing step descrambles each frame of all of the frames using
each of the extracted descrambling keys, and

said reproduction step reproduces all of the frames descrambled by said descrambling step, and

(b) in the particular reproduction mode,

55 said list extraction step selectively extracts descrambling keys corresponding to
the predetermined frames from the list of descrambling keys,

said descramble processing step descrambles each of the predetermined frames using the extracted descrambling keys, and

60 said reproduction step reproduces the predetermined frames descrambled by said
descrambling step at a speed of reproduction that is different than a speed of reproduction of the
normal reproduction mode.

33. (Currently Amended) A method for scrambling content and broadcasting the
scrambled content to a reception apparatus, the method comprising ~~the steps of:~~

an acquisition step for acquiring content to be scrambled and a plurality of
descrambling keys;

5 a scramble processing step for ~~scrambling a predetermined unit of content out of~~
~~the acquired content so that the predetermined unit of scrambled content is descrambled using a~~
~~descrambling key different for each predetermined unit or each set of a plurality of~~
~~predetermined units~~ selecting one of the descrambling keys for each frame of the content, and
scrambling the each frame so that the frame can be descrambled by using the descrambling key
10 selected for the frame;

an attaching step for attaching auxiliary information, ~~to the predetermined unit of~~
~~scrambled content, the auxiliary information consisting of~~ which is used to generate a list of the
descrambling keys, wherein the auxiliary information includes (a) information for identifying
each of the scrambled content frames and (b) ~~a descrambling key corresponding to the content,~~
15 ~~and used for having the reception apparatus generate a list of descrambling keys including the~~
~~descrambling keys and descrambling key identifiers that identify the descrambling keys~~
~~respectively and are used to identify a descrambling key corresponding to the predetermined unit~~
~~of scrambled content in both a normal reproduction mode that includes a play mode, and a~~

~~particular reproduction mode that includes a fast forward mode, each of the descrambling keys~~
20 selected for the frame; and

~~from the list of descrambling keys, a first group of descrambling keys being~~
~~extracted in the normal reproduction mode, and a second group of descrambling keys being~~
~~extracted in the particular reproduction mode;~~

~~a broadcast step for broadcasting the scrambled content to which the auxiliary~~
25 ~~information is added including the plurality of scrambled frames to which the auxiliary~~
information has been attached.

34. (Currently Amended) A method for scrambling content and broadcasting the
scrambled content to a reception apparatus, the method comprising the steps of:

an acquisition step for acquiring content to be scrambled and a plurality of
descrambling keys;

5 a scramble processing step for selecting one of the descrambling keys for each
frame of the content, and scrambling the each frame so that the frame can be descrambled by
using the descrambling key selected for the frame;

~~a list generation step for generating a list of descrambling keys including the~~
~~descrambling keys and descrambling key identifiers that identify the descrambling keys~~
10 ~~respectively and are used to identify a descrambling key corresponding to the predetermined unit~~
~~of scrambled content in both a normal reproduction mode that includes a play mode, and a~~
~~particular reproduction mode that includes a fast forward mode, which includes all of the~~
descrambling keys selected by the scramble processing step;

from the list of descrambling keys, a first group of descrambling keys being
15 extracted in the normal reproduction mode, and a second group of descrambling keys being
extracted in the particular reproduction mode;

an embedding step for embedding the list of descrambling keys in at least one
piece of predetermined information to generate at least one piece of storage information; and

a scramble processing step for scrambling a predetermined unit of content out of
20 the acquired content so that the predetermined unit of scrambled content is descrambled using a
descrambling key different for each predetermined unit or each set of a plurality of
predetermined units; and

a broadcast step for broadcasting the generated storage information and the
scrambled content.